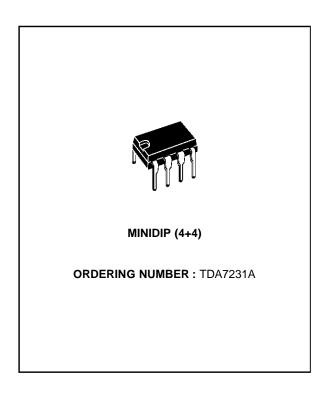


# **TDA7231A**

## 1.6W AUDIO AMPLIFIER

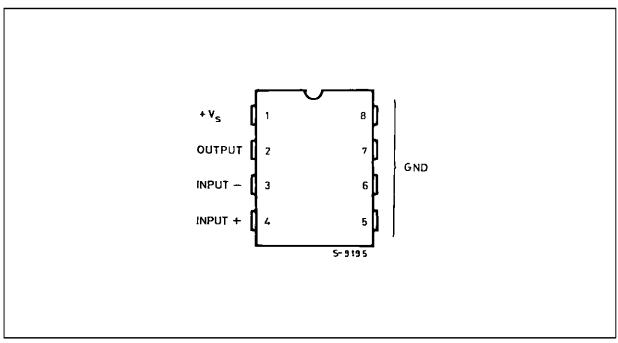
- OPERATING VOLTAGE 1.8 TO 15 V
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION
- SOFT CLIPPING



#### **DESCRIPTION**

The TDA7231A is a monolithic integrated circuit in 4 + 4 lead minidip package. It is intended for use as class AB power amplifier with wide range of supply voltage in portable radios, cassette recorders and players, etc.

### **PIN CONNECTION**



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### **ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
Vs	Supply Voltage	16	V
P <sub>tot</sub>	Total Power Dissipation at T <sub>amb</sub> = 50 °C at T <sub>case</sub> = 70 °C	1.25 4	W W
Io	Output Peak Current	1	Α
T <sub>stg</sub> , T <sub>j</sub>	Storage and Junction Temperature	- 40 to 150	°C

#### THERMAL DATA

Symbol	Parameter		Value	Unit
R <sub>th j-amb</sub>	Thermal Resistance Junction-ambient Ma	ах.	80	°C/W
R <sub>th j-pins</sub>	Thermal Resistance Junction-pins Ma	ax.	15	°C/W

# **ELECTRICAL CHARACTERISTICS** ( $V_s$ = 6 V, $T_{amb}$ = 25 $^{\circ}C$ , unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
Vs	Supply Voltage		1.8		15	V
Vo	Quiescent Out Voltage	V <sub>S</sub> = 6 V V <sub>S</sub> = 3 V		2.7 1.2		V
I <sub>d</sub>	Quiescent Drain Current			3.6	9	mA
I <sub>b</sub>	Input Bias Current			100		nA
Po	Output Power	$\begin{array}{lll} d = 10\% & f = 1 \text{kHz} \\ V_s = 12 V & R_L = 8 \Omega \\ V_s = 9 V & R_L = 4 \Omega \\ V_s = 6 V & R_L = 8 \Omega \\ V_s = 6 V & R_L = 4 \Omega \\ V_s = 3 V & R_L = 4 \Omega \\ V_s = 3 V & R_L = 8 \Omega \end{array}$		1.8 1.6 0.4 0.7 110 70		W W W W mW
d	Distortion	$P_{o} = 0.2 \text{ W}$ $f = 1 \text{ kHz}$ $R_{L} = 8 \Omega$		0.3		%
G <sub>v</sub>	Closed Loop Voltage Gain			38		dB
R <sub>in</sub>	Input Resistance	f = 1kHz	100			kΩ
en	Total Input Noise	$R_s = 10k\Omega$ B = Curve A B = 22Hz to 22kHz		2 3		μV μV
SVR	Supply Voltage Rejection	$f = 100Hz$ , $R_g = 10k\Omega$	24	33		dB

Figure 1: Test and Application Circuit

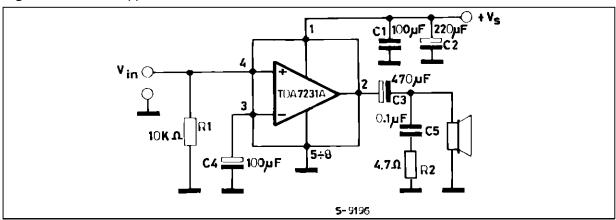


Figure 2: P.C. Board and Components Layout of the figure 1 (1:1 scale)

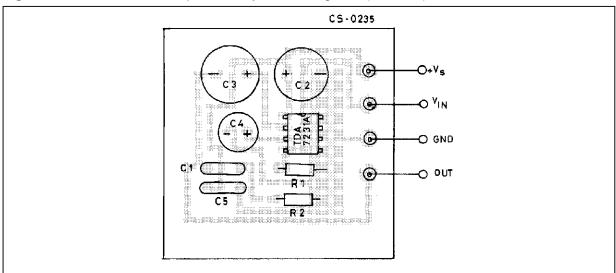


Figure 3: Output Power versus Supply Voltage

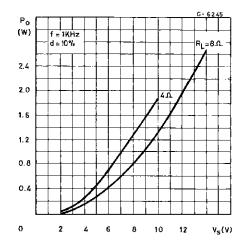


Figure 5: Quiescent Output Voltage versus Supply Voltage

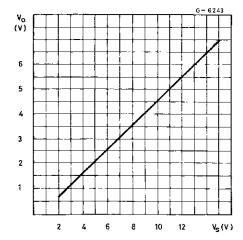
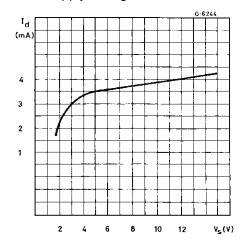
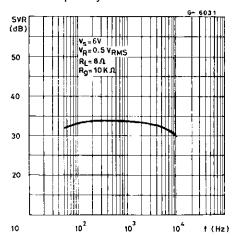


Figure 4: Quiescent Current versus Supply Voltage

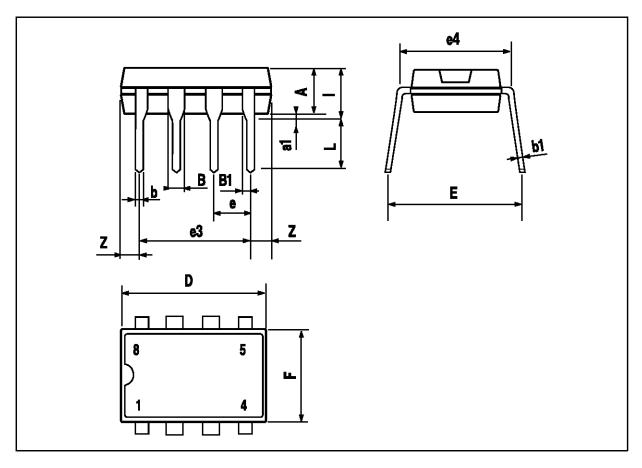


**Figure 6 :** Supply Voltage Rejection versus Frequency



### MINIDIP PACKAGE MECHANICAL DATA

DIM.	mm			inch			
DIIVI.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А		3.3			0.130		
a1	0.7			0.028			
В	1.39		1.65	0.055		0.065	
B1	0.91		1.04	0.036		0.041	
b		0.5			0.020		
b1	0.38		0.5	0.015		0.020	
D			9.8			0.386	
Е		8.8			0.346		
е		2.54			0.100		
e3		7.62			0.300		
e4		7.62			0.300		
F			7.1			0.280	
1			4.8			0.189	
L		3.3			0.130		
Z	0.44		1.6	0.017		0.063	



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